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EXAMINER
SHAPIRO, LEONID

ART UNIT	PAPER NUMBER
2673	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/763,806	HIROTA ET AL.
	Examiner	Art Unit
	Leonid Shapiro	2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-41 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-41 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 27 February 2002 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show items numbers on page 25 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

On page 30, Line 19 refers to n-th signal line. In Fig. 7(a) there is no n-th signal line, only m-th signal line.

On page 37, lines 24-25 refers to Fig. 8: "... this construction is omitted in Fig. 8". Fig. 8 is a timing diagram. It is not clear what construction is referenced.

All abbreviations in the specification need to be deciphered..

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6, 9-10, 17-20, 27-30, 33-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobsen et al. (US Patent No. 6,232,937 B1) in view of Hoeksma (US Patent 6,175,353 B1).

As to claim 1, Jacobsen et al. teaches a portable information terminal with: a display section for displaying an image corresponding to a received image signal (See Fig. 8, item 202, in description See Col. 2, Lines 50-57 and Col. 5, Lines 17-19); a light source for supplying light to the display section (See Fig. 2C, item 111, in description See Col. 2, Lines 50-57 and Col. 9, Lines 53-25); a driving section for controlling an operation of display section (See Fig. 2C, items122, 112, in description See Col. 9, Lines 14-28); wherein the portable information terminal has a color display mode as a display mode of the image displayed in display section (See Fig. 2B, items 102,103, 105, in description See Col. 8, Lines 25-28).

Jacobsen et al. does not teach a monochromatic display mode.

Hoeksma shows the monochromatic display mode (See Fig. 4, item 47, in description See Col. 4, Lines 37-43 and Col. 5, Lines 3-9). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement the a monochromatic display mode as shown by Hoeksma in the Jacobsen et al. portable information terminal in order to increase power conservation in battery powered portable information terminal.

As to claim 2, Jacobsen et al. teaches multi-gradation display is set in color display mode (See Fig. 2B, items 102,103, 105, D/A, in description See Col. 8, Lines 25-27) and Hoeksma teaches monochromatic display mode (See Fig. 4, item 47, in description See Col. 4, Lines 37-43 and Col. 5, Lines 3-9).

As to claim 3, Jacobsen et al. teaches a device with: a display section for displaying an image corresponding to a received image signal (See Fig. 8, item 202, in description See Col. 2, Lines 50-57 and Col. 5, Lines 17-19); a light source for supplying light to the display section (See Fig. 2C, item 111, in description See Col. 2, Lines 50-57 and Col. 9, Lines 53-25); a driving section for controlling an operation of display section (See Fig. 2C, items122, 112, in description See Col. 9, Lines 14-28); wherein the portable information terminal has a color display mode as a display mode of the image displayed in display section (See Fig. 2B, items 102,103, 105, in description See Col. 8, Lines 25-28); a light source control section for controlling an operation of light source in accordance with the image signal from signal generating section (See Fig. 2I, in description See Col. 12, lines 14-28); a signal processing section for processing the image signal in accordance with the image signal from signal generating section (See Fig. 2F, items 1122, 1112, in description See Col.10, lines 53-65)

Jacobsen et al. does not teach a display mode judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal corresponding to the display mode of display section by instructions of the display mode judging section.

Hoeksma shows a display mode judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal

corresponding to the display mode of display section by instructions of the display mode judging section (See Fig. 3-5, items 32, 26, 25, 39, 61-70, in description See Col.4, Lines 37-47 and Col 5, Lines 3-65). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement the judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal corresponding to the display mode of display section by instructions of the display mode judging section as shown by Hoeksma in the Jacobsen et al. device in order to increase power conservation in battery powered device.

As to claims 4-5, Jacobsen et al. teaches a device with: a display section for displaying an image corresponding to a received image signal (See Fig. 8, item 202, in description See Col. 2, Lines 50-57 and Col. 5, Lines 17-19); a light source for supplying light to the display section (See Fig. 2C, item 111, in description See Col. 2, Lines 50-57 and Col. 9, Lines 53-25); a driving section for controlling an operation of display section (See Fig. 2C, items122, 112, in description See Col. 9, Lines 14-28); wherein the portable information terminal has a color display mode as a display mode of the image displayed in display section (See Fig. 2B, items 102,103, 105, in description See Col. 8, Lines 25-28); a light source control section for controlling an operation of light source in accordance with the image signal from signal generating section (See Fig. 2I, in description See Col. 12, lines 14-28); a signal processing section for processing the image signal in accordance with the image signal from signal generating section (See Fig. 2F, items 1122, 1112, in description See Col.10, lines 53-65)

Jacobsen et al. does not teach a display mode judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal

corresponding to the display mode of display section by instructions of the display mode judging section: a signal processing switching section for switching a signal processing path in accordance with the control signal from the signal generating section.

Hoeksma shows a display mode judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal corresponding to the display mode of display section by instructions of the display mode judging section; a signal processing switching section for switching a signal processing path in accordance with the control signal from the signal generating section (See Fig. 3-5, items 32, 26, 25, 39, 61-70, in description See Col.4, Lines 37-47 and Col 5, Lines 3-65). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement the judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal corresponding to the display mode of display section by instructions of the display mode judging section as shown by Hoeksma in the Jacobsen et al. device in order to increase power conservation in battery powered device.

As to claim 6, Jacobsen et al. shows the mode of operation, where large size of black and white characters shown on display, using software and monochromatic mode (See Fig. 8D-8E, in description See Col. 18, Lines 42-52). Jacobsen et al. also shows RGB processing (See Fig. 2F, items 1122, 1112, in description See Col.10, lines 53-65). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement a frequency control section for switching the control of an operating frequency of signal processing section in the Jacobsen et al. device in order to increase power conservation in battery powered device.

As to claims 9-10, Jacobsen et al. teaches a device with: a display section for displaying an image corresponding to a received image signal (See Fig. 8, item 202, in description See Col. 2, Lines 50-57 and Col. 5, Lines 17-19); a light source for supplying light to the display section (See Fig. 2C, item 111, in description See Col. 2, Lines 50-57 and Col. 9, Lines 53-25); a light source control section for controlling an operation of light source in accordance with the image signal from signal generating section (See Fig. 2I, in description See Col. 12, lines 14-28); a signal processing section for processing the image signal in accordance with the image signal from signal generating section (See Fig. 2F, items 1122, 1112, in description See Col.10, lines 53-65); a signal processing section for processing the image signal in accordance with the switching of the signal processing path of signal switching section (See Fig. 8D-8E, in description See Col. 18, Lines 42-52).

Jacobsen et al. does not teach a display mode judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal corresponding to the display mode of display section by instructions of the display mode judging section: a signal processing switching section for switching a signal processing path in accordance with the control signal from the signal generating section.

Hoeksma shows a display mode judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal corresponding to the display mode of display section by instructions of the display mode judging section; a signal processing switching section for switching a signal processing path in accordance with the control signal from the signal generating section (See Fig. 3-5, items 32, 26, 25, 39, 61-70, in description See Col.4, Lines 37-47 and Col 5, Lines 3-65). It would have been

obvious to one of ordinary skill in the art of the time of the invention to implement the judging section for judging a display mode of image displayed in display section; a signal generating section for generating an image signal corresponding to the display mode of display section by instructions of the display mode judging section as shown by Hoeksma in the Jacobsen et al. device in order to increase power conservation in battery powered device.

As to claims 17, 33 Jacobsen et al. teaches a display unit having a light source with: a display section for displaying an image in accordance with image signal from the image signal processing section (See Fig. 8, item 202, in description See Col. 2, Lines 50-57 and Col. 5, Lines 17-19); a light source control section for controlling an operation of light source in accordance with the signal from signal processing section (See Fig. 2I, in description See Col. 12, lines 14-28); a signal processing section for processing the image signal in accordance with the switching of the processing path in the signal processing switching section (See Fig. 2F, items 1122, 1112, in description See Col.10, lines 53-65); a signal processing switching section for switching of the signal processing path of inputted image signal (See Fig. 8D-8E, in description See Col. 18, Lines 42-52).

As to claim 18, Jacobsen et al. teaches a display unit with: a display element having the liquid crystal cell and light source (See Fig. 2b, items 112, 111, in description See Col. 8, Lines 25-50); a driving section having light source control section, signal processing switching section and signal processing section (See Fig. 2b, items 105-110, in description See Col. 8, Lines 25-50).

As to claim 19, Jacobsen et al. teaches the liquid crystal cell having a pair of transparent substrates, a liquid crystal layer nipped between the pair of transparent substrates, and electrode

group arranged in at least one of pair of transparent substrates (See Fig. 2m, items 2080, 1164, in description See Col. 13, Lines 52-67 and Col 14, Lines 1-4); a reflection plate arranged on one face side of liquid crystal cell and a light guide body arranged between liquid crystal cell reflection plate such that light source is arranged on a side face of the light guide body (See Fig. 7E, items 450, 452, 458, in description See Col.17, Lines 33-550).

As to claims 20, 34 Jacobsen et al. teaches the liquid crystal cell having a pair of transparent substrates, a liquid crystal layer nipped between the pair of transparent substrates, and electrode group arranged in at least one of pair of transparent substrates (See Fig. 2m, items 2080, 1164, in description See Col. 13, Lines 52-67 and Col 14, Lines 1-4); a reflection plate arranged on one face side of liquid crystal cell and a light guide body arranged between liquid crystal cell reflection plate such that light source is arranged on a side face of the light guide body (See Fig. 7E, items 450, 452, 458, in description See Col.17, Lines 33-55); a light polarizing maintaining scattering layer arranged between light guide body and liquid crystal cell (See Fig. 7E, item 462, in description See Col.17, Lines 43-45);

As to claims 27, 35 Jacobsen et al. teaches a display unit having a light source with: a mode switching section for switching a displayed image mode and controlling an operation of light source (See Fig. 2B, items 110-112, in description See Col. 8, Lines 25-50); an image signal processing section for processing an image signal in accordance with instructions from mode switching section (See Fig. 2B, items 103-112, in description See Col. 8, Lines 25-50); a display cell for displaying the image in accordance with the image signal from the image signal processing section (See Fig. 2M,1162, 1164, 2080, in description See Col. 52-67).

As to claim 28, 36 Jacobsen et al. teaches a display unit with: a display element having the liquid crystal cell and light source (See Fig. 2b, items 112, 111, in description See Col. 8, Lines 25-50); a driving section having light source control section, signal processing switching section and signal processing section (See Fig. 2b, items 105-110, in description See Col. 8, Lines 25-50).

As to claim 29, Jacobsen et al. teaches the liquid crystal cell having a pair of transparent substrates, a liquid crystal layer nipped between the pair of transparent substrates, and electrode group arranged in at least one of pair of transparent substrates (See Fig. 2m, items 2080, 1164, in description See Col. 13, Lines 52-67 and Col 14, Lines 1-4); a reflection plate arranged on one face side of liquid crystal cell and a light guide body arranged between liquid crystal cell reflection plate such that light source is arranged on a side face of the light guide body (See Fig. 7E, items 450, 452, 458, in description See Col.17, Lines 33-550).

As to claim 30, Jacobsen et al. teaches the liquid crystal cell having a pair of transparent substrates, a liquid crystal layer nipped between the pair of transparent substrates, and electrode group arranged in at least one of pair of transparent substrates (See Fig. 2m, items 2080, 1164, in description See Col. 13, Lines 52-67 and Col 14, Lines 1-4); a reflection plate arranged on one face side of liquid crystal cell and a light guide body arranged between liquid crystal cell reflection plate such that light source is arranged on a side face of the light guide body (See Fig. 7E, items 450, 452, 458, in description See Col.17, Lines 33-55); a light polarizing maintaining scattering layer arranged between light guide body and liquid crystal cell (See Fig. 7E, item 462, in description See Col.17, Lines 43-45);

5. Claims 7-8, 11-15, 21-26, 31-32, 39 rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobsen et al. and Hoeksma as aforementioned in claims 3, 10, 18, 27 in view of Koh (Patent No. 5,534,883) and further in view of Yamazaki et al. (US Patent 6,424,326 B2).

As to claim 7, Jacobsen et al. teaches signal processing section with n-bit memory, a digital-analog converter connected to the n-bit memory; display mode displayed by the display section has a multi-gradation display mode; in the case of the multi-gradation display mode, signal processing switching section selects n-bit memory in signal processing section, and signal processing processes the image signal generated by signal generating section, by n-bit memory and DAC connected to the n-bit memory (See Fig. 2B, items 105-112, in description See Col. 8, Lines 25-63). Jacobsen et al. also shows a two-gradation display mode with large size of black and white characters shown on display, using software and monochromatic mode (See Fig. 8D-8E, in description See Col. 18, Lines 42-52).

Jacobsen et al. and Hoeksma do not show a 1-bit memory and a level shifter connected to 1-bit memory; in a case of the two-gradation display mode signal processing switching section processes the image signal generated by signal processing section by 1-bit memory and level shifter.

Koh teaches the diving binary display using 1-bit memory (See Abstract and Fig. 10, items 2a, 38, in description See Col. 9, Lines 54-58) and Yamazaki et al. teaches how to use level shifter (See Fig. 7, item 302b, in description See Col. 13, Lines 35-38). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement a level shifter as shown by Yamazaki et al. and 1-bit memory as shown by Koh in the Jacobsen et al. and Hoeksma device in order to increase power conservation in battery powered device.

As to claim 8, Jacobsen et al. teaches an n-bit memory connected to signal processing switching section; the display mode displayed by display section has a multi-gradation display mode and a two-gradation display mode; when display mode judging section judges the multi-gradation display mode, signal processing switching section selects DAC, and processes the image signal held in n-bit memory connected to signal processing section by DAC (See Fig. 2B, items 105-112, in description See Col. 8, Lines 25-63); and when display mode judging section judges the two-gradation display mode, signal processing switching section processes the image signal held in n-bit memory (See Fig. 8D-8E, in description See Col. 18, Lines 42-52).

Jacobsen et al. and Hoeksma do not show a level shifter connected to signal processing section.

Yamazaki et al. teaches how to use level shifter (See Fig. 7, item 302b, in description See Col. 13, Lines 35-38). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement a level shifter as shown by Yamazaki et al. in the Jacobsen et al. and Hoeksma device in order to increase power conservation in battery powered device.

As to claims 11-12, Jacobsen et al. teaches display mode of display section in device has multi-gradation (color) and two-gradation (monochromatic) display; signal processing switching section has an n-bit memory connected to signal processing switching section; the display mode displayed by display section has a multi-gradation display mode and a two-gradation display mode and DAC; when display mode judging section judges the multi-gradation display mode, signal processing switching section selects DAC, and processes the image signal held in n-bit memory connected to signal processing section by DAC (See Fig. 2B, items 105-112, in description See Col. 8, Lines 25-63); and when display mode judging section judges the two-

gradation display mode, signal processing switching section processes the image signal held in n-bit memory (See Fig. 8D-8E, in description See Col. 18, Lines 42-52).

Jacobsen et al. and Hoeksma do not show a level shifter connected to signal processing section.

Yamazaki et al. teaches how to use level shifter (See Fig. 7, item 302b, in description See Col. 13, Lines 35-38). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement a level shifter as shown by Yamazaki et al. in the Jacobsen et al. and Hoeksma device in order to increase power conservation in battery powered device.

As to claim 13, Jacobsen et al. teaches display mode with color multi-gradation display and monochromatic binary display, and bit converting section in signal processing section also converts the image signal from the color display to the monochromatic display (See Fig. 8D-8E, in description See Col. 18, Lines 42-52).

As to claim 14, Jacobsen et al. shows the mode of operation, where large size of black and white characters shown on display, using software and monochromatic mode (See Fig. 8D-8E, in description See Col. 18, Lines 42-52). Jacobsen et al. also shows RGB processing (See Fig. 2F, items 1122, 1112, in description See Col.10, lines 53-65). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement a frequency control section for switching the control of an operating frequency of signal processing section in the Jacobsen et al. device in order to increase power conservation in battery powered device.

As to claim 15, Jacobsen et al. teaches switching timing of the display mode switched by the display mode judging section is set by the operation of a user (See 8D, in description See Col. 18, Lines 48-50).

As to claims 21-24, Jacobsen et al. teaches display mode of display section in device has multi-gradation (color) and two-gradation (monochromatic) display;; the display mode displayed by display section has a multi-gradation display mode and a two-gradation display mode and DAC; signal processing switching section, and processes the image signal by selecting DAC in signal processing section when the display mode shows the multi-gradation display (See Fig. 2B, items 105-112, in description See Col. 8, Lines 25-63); signal processing switching section processes the image signal by selecting two-gradation display mode(See Fig. 8D-8E, in description See Col. 18, Lines 42-52).

Jacobsen et al. and Hoeksma do not show a level shifter connected to signal processing section.

Yamazaki et al. teaches how to use level shifter (See Fig. 7, item 302b, in description See Col. 13, Lines 35-38). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement a level shifter as shown by Yamazaki et al. in the Jacobsen et al. and Hoeksma device in order to increase power conservation in battery powered device.

As to claim 25-26, Jacobsen et al. shows the mode of operation, where large size of black and white characters shown on display, using software and monochromatic mode (See Fig. 8D-8E, in description See Col. 18, Lines 42-52). Jacobsen et al. also shows RGB processing (See Fig. 2F, items 1122, 1112, in description See Col.10, lines 53-65). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement a frequency control section for switching the control of an operating frequency of signal processing section in the Jacobsen et al. device in order to increase power conservation in battery powered device.

As to claims 31-32, 39 Jacobsen et al. teaches display mode of display section in device has multi-gradation (color) and two-gradation (monochromatic) display;; the display mode displayed by display section has a multi-gradation display mode and a two-gradation display mode and DAC; signal processing switching section, and processes the image signal by selecting DAC in signal processing section when the display mode shows the multi-gradation display (See Fig. 2B, items 105-112, in description See Col. 8, Lines 25-63); signal processing switching section processes the image signal by selecting two-gradation display mode(See Fig. 8D-8E, in description See Col. 18, Lines 42-52).

Jacobsen et al. and Hoeksma do not show a level shifter connected to signal processing section.

Yamazaki et al. teaches how to use level shifter (See Fig. 7, item 302b, in description See Col. 13, Lines 35-38). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement a level shifter as shown by Yamazaki et al. in the Jacobsen et al. and Hoeksma device in order to increase power conservation in battery powered device.

6. Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobsen et al. and Hoeksma as aforementioned in claims 3 in view of Dahm et al. (Patent No6,466,783 B2).

Jacobsen et al. and Hoeksma do not teach switching timing of the display mode switched by display judging section is tag information described in a markup language.

Dahm et al. teaches a set of commands or statements that specifies how information displayed on a small screen of the mobile device (See Fig. 1, items 106, 116, in description See Col. 4, Lines 37-47).). It would have been obvious to one of ordinary skill in the art of the

time of the invention to implement a timing of switching of display mode as shown by Dahm et al. in the Jacobsen et al. and Hoeksma device in order to increase power conservation in battery powered device.

7. Claims 37-38, 40-41 rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobsen et al. and Hoeksma as aforementioned in claims 17, 27 and 36 in view of Flynn (Patent No 5,815,228).

As to claim 37, Jacobsen et al. teaches the liquid crystal cell having a pair of transparent substrates, a liquid crystal layer nipped between the pair of transparent substrates, and electrode group arranged in at least one of pair of transparent substrates (See Fig. 2m, items 2080, 1164, in description See Col. 13, Lines 52-67 and Col 14, Lines 1-4); plural pixels formed by an electrode kind arranged in at least one of pair of substrates (See Fig. 2A, item 90, in description See Col. 6, lines 52-58);

Jacobsen et al. and Hoeksma do not show light source arranged in accordance with each of plural pixels and constructed by including a metallic electrode, an organic LED layer and a electrode from a substrate transparent side.

Flynn teaches light source arranged in accordance with each of plural pixels and constructed by including a metallic electrode, an organic LED layer and a electrode from a substrate transparent side (See Fig. 5-6, items 60, 62, in description See Col.1, Lines 48-67 and Col.5, Lines 60-65). It would have been obvious to one of ordinary skill in the art of the time of the invention to implement an organic LED layer as shown by Flynn in the Jacobsen et al. and Hoeksma device in order to increase power conservation in battery powered device.

As to claim 38, Jacobsen et al. teaches mode switching section in driving circuit section switches one of the control of liquid crystal layer in liquid crystal cell and the control of an operation of organic LED (See Fig. 8D-8E, in description See Col. 18, Lines 42-52 and See Fig. 2F, items 1122, 1112, in description See Col.10, lines 53-65).

As to claims 40-41, Jacobsen et al. teaches a portable information terminal having a display unit, an antenna, a wireless section connected to antenna, and entire device control section connected to the wireless section and display unit and controlling the operation of an entire device, entire device control section generates a digital image signal corresponding to a display mode of display element in display unit (See Fig.2C, 8A, 8D items 121, 134, 204, in description See Col. 9, Lines 14-28 an Col. 18, Lines 43-58).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

The Vrudny et al. (US Patent No. 6,347,882 B1) reference discloses display backlighting system.

The Gale et al. (US Patent No. 6,452,577 B1) reference discloses microdisplay viewer.

The Satoh (US Patent No. 6,315,440 B1) reference discloses multicolor illuminator and portable information apparatus...

The Nakai (US Patent No. 6,219,119 B1) reference discloses reflector and liquid crysal display device.

The Kubes et al. (US Patent No. 6,035,180) reference discloses communication module having selectively programmable exterior surface.

The Sano et al. (US Patent No. 6,131,046) reference discloses altering displayed keys to indicate availability of service for a communications apparatus.

The Lebby et al. (US Patent No. 5,543,958) reference discloses integrated electro-optic package for reflective spatial light modulators.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

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October 17, 2002

Amare Mengistu
Primary Examiner